

considerable amount of effort was expended to clarify and define Bell Atlantic-New York's enhanced extended link offering, a Bell Atlantic-New York combination of elements. Its availability affects the utility of the other combination options. The extended link offering eliminates the need for physical collocation in every Bell Atlantic-New York central office, dramatically reducing costs and expanding the competitively reachable customer base. Facilities-based competitors see the potential, in this offering, of making competitive services available to smaller users and less densely populated areas. Facilities-based competitors indicated that the combination of loops with central office multiplexing functions and interoffice transport was of critical concern, as offering to promote the fullest deployment of new technologies and diverse services.<sup>1</sup> During the technical conference, however, it appeared that Bell Atlantic-New York indicated it would restrict the use of extended link to the provision of local exchange dial tone service.<sup>2</sup>

Facilities-based competitors argue this restriction violates the Act and the terms of the Pre-filing, and assert Bell Atlantic-New York would require competitors to downgrade their networks from their advanced DS1 and DS3 capabilities to Bell Atlantic-New York's DS0 architecture. Citing Bell Atlantic-New York promotions for free technology upgrades, competitors charge the restriction is "profoundly anti-competitive."<sup>3</sup> e.spire views enhanced extended link as the most attractive proposal advanced, and urges the Commission to define it as an unbundled network element and to ensure it is offered free of any restrictions.<sup>4</sup>

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<sup>1</sup> Intermedia's Brief, pp. 1-2. Also of concern to Intermedia was that Bell Atlantic-New York presented enhanced extended link as a voluntary offering; Intermedia and CompTel urge the Commission to define enhanced extended link as a network element and require Bell Atlantic-New York to provide it to competitors irrevocably and without restriction (Tr. 625).

<sup>2</sup> Tr. 764-767, 773.

<sup>3</sup> Intermedia's Brief, p.3.

<sup>4</sup> e.spire's Brief, pp. 2-4.

Bell Atlantic-New York, following the technical conference, chose not to address these arguments, pending its expected tariff filing including this offering.<sup>1</sup> To avoid duplicative litigation, and because the tariff was filed subsequent to these parties' comments, issues related to enhanced extended link will be treated in the tariff review process, not here. However, Commission resolution of these issues is a component of §251(c)(3) compliance.

THE OPTIONS FOR NETWORK ELEMENT  
COMBINATION AND PROPOSED SPECIFIC FINDINGS

Grouping the numerous options sponsored by parties, there were six distinct methods proposed, with some different subsets within several of the options. The six options are: (1) physical collocation (traditional, small cage, and shared cage) (Bell Atlantic-New York); (2) SCOPE (Bell Atlantic-New York); (3) identified space collocation (Covad and Intermedia versions); (4) virtual collocation with robot (Bell Atlantic-New York); (5) assembly room/point (Bell Atlantic-New York); and (6) recent change memory (AT&T). Each option is analyzed below, taking into consideration the sponsors' initial filing and other parties' comments; the technical conference; subsequent responses to data requests; Staff conferences with parties and Staff investigation; the parties' post-technical conference briefs; and portions of the records and filings of related proceedings, where appropriate.

Option I -- Physical Collocation and Shared Cage

Traditional physical collocation generally allows a competitive LEC to place its equipment in an environmentally conditioned, secured area of Bell Atlantic-New York's central office.<sup>2</sup> Specifically, Bell Atlantic-New York constructs a 100-

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<sup>1</sup> Bell Atlantic-New York's Summary Presentation, p. 2, n. 2.

<sup>2</sup> Tr. 64.

square foot locked wire fenced-in area, or cage, in a segregated area of its central office building and the competitive LEC is allowed to place its transmission and multiplexing<sup>1</sup> equipment in the dedicated caged space. For combining elements, the competitive LEC installs a simple frame cross connect, and Bell Atlantic-New York runs tie cables from the switch and link sides of its MDF<sup>2</sup> to the competitive LEC frame in the cage. In addition, Bell Atlantic-New York would make cross connections at the MDF.

Bell Atlantic-New York has now offered to construct less costly 25-square foot cages to allow a competitive LEC that doesn't need the larger space for access to unbundled elements. In addition, the 25-square-foot cages may allow collocation in central offices lacking space for the larger cage.

Bell Atlantic-New York also offered to allow caged areas to be shared among competitive LECs. In this case, a collocated competitive LEC may host another competitive LEC. Bell Atlantic-New York anticipates no additional costs resulting from a shared cage. Bell Atlantic-New York would charge the host competitive LEC but accept orders from both the host and the subsequent occupants.

#### 1. The Sponsor's Evaluation

Bell Atlantic-New York asserts the efficacy of these methods can be demonstrated easily and implemented quickly.<sup>3</sup> It currently has 61 central offices with physical collocation.<sup>4</sup>

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<sup>1</sup> A multiplexer allows two or more signals to pass over one communications circuit: a telephone line, microwave circuit, or television signal.

<sup>2</sup> The MDF is a wiring arrangement that connects the telephone lines coming from outside the central office, on one side, and the internal lines on the other. An MDF may also carry protective devices and function as a central testing point.

<sup>3</sup> Tr. 133-35.

<sup>4</sup> Response to Data Request #17.

Bell Atlantic-New York also asserts that these methods adequately can handle anticipated volumes. It can complete 300 combinations per day per office, which it asserts is a reasonable volume.<sup>1</sup> As many as 10,000 combination pairs fit in the 25-square foot cage, while the capacity of the 100-square foot cage is virtually unlimited.

Bell Atlantic-New York admits, however, that if a competitive LEC does not intend to put in its own facilities, and simply wants to market combinations of loops and ports, physical collocation is not a viable method,<sup>2</sup> because it is not cost-effective unless the competitive LEC needs physical collocation to locate other equipment in order to provide service over its own facilities.

Bell Atlantic-New York states that physical collocation poses minimal adverse impact on end users and network facilities, since the unbundled network elements are being combined on facilities which, except for the competitive LEC cross connect frame, are still within its control.<sup>3</sup> In its estimation, a shared cage would have a slightly higher possibility of adverse impact because of commingling of equipment of several carriers.

Bell Atlantic-New York states that these physical collocation methods allow a competitive LEC easily to migrate a customer to its own facilities-based service, since the customer's loop is already terminated at the competitive LEC cross-connect frame.<sup>4</sup> The competitive LEC would have to add transmission equipment, if none were present. Further, Bell Atlantic-New York asserts these methods allow for a customer to

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<sup>1</sup> Tr. 133-35.

<sup>2</sup> Tr. 137.

<sup>3</sup> Tr. 140.

<sup>4</sup> Tr. 141.

easily migrate back to Bell Atlantic-New York or another competitive LEC.<sup>1</sup>

Bell Atlantic-New York assessed space availability in 100 of its 522 central offices; standard physical collocation is provided in 75 locations. Of those 100 offices, 89 offices could support additional traditional physical collocation. Eleven have no room to support additional 100-square foot cages. Eight of these can accommodate 25-square foot cages; two cannot. The capacity in the other 422 central offices is undetermined.<sup>2</sup>

While physical collocation assertedly makes simple the transfer of customers currently physically connected to Bell Atlantic-New York's switch, another step is required for the roughly seven percent of customers currently served by digital technology.<sup>3</sup> Links of customers served by Integrated Digital Loop Carrier (IDLC) could not be as easily unbundled. Bell Atlantic-New York notes that it would have to transfer the customers' service either to Universal Digital Loop Carrier (UDLC) or to an available copper pair,<sup>4</sup> before a competitor could combine the loop with either its own or a Bell Atlantic-New York port.

## 2. Other Parties' Evaluations

Some competitors, for example, e.spire, have found traditional physical collocation often unavailable, sometimes technically unnecessary, and prohibitively costly.<sup>5</sup> e.spire does, however, support the 25-square foot cage alternative.

As to the impact on network reliability and end user service, AT&T states it wouldn't take advantage of collocation to

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<sup>1</sup> Tr. 142.

<sup>2</sup> Tr. 105; Bell Atlantic-New York Response to Data Request 16S.

<sup>3</sup> Bell Atlantic-New York Response to Data Request 4.5.

<sup>4</sup> Tr. 120.

<sup>5</sup> e.spire's Brief, p. 5.

combine Bell Atlantic-New York's loops and ports even if offered gratis, because of the potential customer harm, citing central office plant operating error as order volumes dramatically increase.<sup>1</sup> Intermedia also notes the additional test points that are inserted by this or any other physical method portend longer repair times.<sup>2</sup>

COVAD asserts that competitive LECs endure "retrograde, laboriously slow, costly, and non-ubiquitous methods of physical collocation."<sup>3</sup> It views Bell Atlantic-New York's proposals as impractical for efficient offering of innovative, high bandwidth services to residential and business neighborhoods in New York State. COVAD, which intends to deploy digital subscriber line (DSL) technologies,<sup>4</sup> asserts its business entry strategy depends upon collocation in Bell Atlantic-New York central offices on a "blanket-area basis."<sup>5</sup> Its concern is that a significant percentage of offices will, according to Bell Atlantic-New York's unilateral determination, have no space for collocation cages, and that the incumbent's collocation provisioning practices will not provide a swift, efficient, and ubiquitous coverage. In contrast, Bell Atlantic-New York asserts 28 standard collocation sites are about to be turned over to COVAD.

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<sup>1</sup> Tr. 195-96.

<sup>2</sup> Tr. 181.

<sup>3</sup> COVAD's Comments, p. 1.

<sup>4</sup> COVAD defines DSL to cover the range of digital technologies enabling the provision of high-speed data and basic voice transmission services over copper loops.

<sup>5</sup> COVAD's Comments, p. 3.

3. Discussion

Collocation was developed as a method for facilities-based competitive access or service providers to establish a point of presence at the incumbent local exchange carrier's central office, in order to route traffic to and from their own remote switches. In all of its variety of forms, it is well-established to serve that purpose. At issue is whether collocation is a nondiscriminatory offering for the purpose of allowing competitors to access and combine the incumbent's unbundled network elements.

On its face, physical collocation allows a competitive LEC that is currently collocated in a Bell Atlantic-New York central office to combine network elements. The possibility of shared space may also allow a competitive LEC not currently collocated to gain access in order to combine elements. However, the record gives cause for concern about space availability for new competitive LECs. The availability of space in over 400 offices is unknown. While the addition of the 25-square foot cage option might alleviate the space shortage, it is a limited solution. The record shows that the shared space might not provide for easy migration to facilities-based service if more space is needed for transmission equipment and the loops have to be moved to another location.<sup>1</sup> In addition, the smaller space was not shown to be sufficient for combining services other than POTS.<sup>2</sup>

The record also reveals that Bell Atlantic-New York can construct a limited number of cages in a month--15 to 20.<sup>3</sup> Combined with the 76- to 105-business-day-wait to build a cage--and that only if forecast by the competitive LEC--market inroads via combining elements will be tediously slow, insufficient to

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<sup>1</sup> Tr. 200.

<sup>2</sup> Tr. 212.

<sup>3</sup> Tr. 157.

handle possible ubiquitous mass market entry on a commercially reasonable schedule.<sup>1</sup>

Further, Bell Atlantic-New York concedes that the cost of collocation, if used strictly for combining unbundled elements, is not attractive.

#### 4. Proposed Finding

Traditional physical collocation is a commercially reasonable and highly effective method for competitive LECs to obtain and combine elements where the competitive LEC is already collocated or intends to collocate for additional purposes. Traditional physical collocation is not an economical choice solely for the purpose of combining Bell Atlantic-New York-provided loops and ports; nor has it been shown to be ubiquitously available statewide. Small-cage and shared-cage collocation mitigate the cost burden, but have capacity and security limitations.

#### Option II -- Secured Collocation Open Physical Environment (SCOPE) (Bell Atlantic-New York)

SCOPE is a physical collocation area located in a secured part of the central office, but without a cage enclosure around an individual competitive LEC's equipment. SCOPE entails a conditioned environment identical to a traditional physical collocation environment. The SCOPE is isolated and separated from Bell Atlantic-New York, central office environment, differentiating SCOPE from virtual collocation. Using SCOPE, the collocater is responsible for the installation and maintenance of its equipment. SCOPE uses a shared point of termination (SPOT) bay<sup>2</sup> that may be shared with other competitive LECs using SCOPE.

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<sup>1</sup> Tr. 180.

<sup>2</sup> A point of termination bay is a small distribution frame adjacent to a collocation area. It is used to cross connect ILEC cabling from an MDF to the competitive LEC cabling. A SPOT bay is used for multiple competitive LECs.



The collocator can place equipment in this arrangement and expand its capacity by adding increments to the frames on the SPOT. SCOPE requires substantially less space per competitive LEC than traditional physical collocation.

1. The Sponsor's Evaluation

Bell Atlantic-New York concludes that SCOPE is a workable method of collocation and that it has the capability to implement SCOPE now.<sup>1</sup> The interval for provisioning a SCOPE collocation arrangement is 76 business days, although if physical collocation already exists in an office, installing SCOPE may be faster. Adding a second competitive LEC to an already established SCOPE arrangement may reduce the required installation time. As to SCOPE's ability to handle anticipated volumes, Bell Atlantic-New York asserts SCOPE can meet any reasonable expected volume for combinations.

As to cost effectiveness, Bell Atlantic-New York and some competitive LECs agree that this is not the plan for a competitive LEC to use solely for loop and port combinations.<sup>2</sup> Bell Atlantic-New York asserts the allocation of cost for SCOPE space is reasonable. The cost is amortized based on proportional amount of floor space being used, which can be as little as 15 square feet.<sup>3</sup> SCOPE is less expensive than traditional physical collocation because the competitive LEC is buying only enough space for its equipment, rather than a larger portion of the central office.<sup>4</sup> In addition, service access charges may be less in a SCOPE arrangement because some POT bay elements are shared.<sup>5</sup>

As to end user impact, the cageless environment

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<sup>1</sup> Tr. 332.

<sup>2</sup> Tr. 333.

<sup>3</sup> Tr. 439.

<sup>4</sup> Tr. 322.

<sup>5</sup> Tr. 378.

compromises the security of the system, because of the open access to all collocated competitive LECs. The installation of cabinets around the competitive LECs equipment in the SCOPE environment may minimize some of the security risk inherent in an open environment.<sup>1</sup>

## 2. Other Parties' Evaluations

All parties agree that SCOPE has been demonstrated to be a workable collocation arrangement. The facilities-based competitive LECs believe SCOPE is a viable alternative collocation option, but is unnecessary simply as a method to provide unbundled network elements. The facilities-based competitive LECs state that alternatives are positive and suggest that innovation should be encouraged.<sup>2</sup> Other competitive LECs agree that SCOPE works, but consider it altogether unnecessary.<sup>3</sup> Intermedia disagrees with Bell Atlantic-New York's calculation of the amount of space required, and the attendant cost.<sup>4</sup>

Competitors question how long it will take to provision SCOPE with a limited workforce, which also will affect Bell Atlantic-New York's ability to handle increasing volume.<sup>5</sup>

As to volume transactions, Intermedia believes that, once built, SCOPE can accommodate more competitors more quickly than other collocation methods.<sup>6</sup> There is support for the conclusion that SCOPE will be able to handle foreseeable volumes.

With regard to security arrangements, Intermedia states it has had no problem with security in a similar arrangement in Florida, in which entry is restricted by access cards with an

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<sup>1</sup> Tr. 319.

<sup>2</sup> Tr. 404, 414.

<sup>3</sup> Tr. 403, 413.

<sup>4</sup> Tr. 324.

<sup>5</sup> Tr. 397, 405.

<sup>6</sup> Tr. 327-328.

electronic log.<sup>1</sup> Bell Atlantic-New York counters that system-wide installation of central office card readers would be both ineffective and very expensive.<sup>2</sup> It also notes it has no universal policy on vendor access to its buildings: security ranges from the methods of procedures for specific jobs in New York City's manned buildings to those for unmanned central offices in rural upstate New York. In addition, there are different security standards for janitorial staff, vendors, and contractors,<sup>3</sup> driven by duration of a contract or relationship rather than type of service.<sup>4</sup> Bell Atlantic-New York has had some problems with theft, whereas Intermedia reports none in its Tampa and Atlanta offices even when equipment is left unsecured in the common area.<sup>5</sup>

As to migration of customers, AT&T asserts this method fails to provide parity with Bell Atlantic-New York because of the additional cross-connects required of competitors.<sup>6</sup> In addition, SCOPE is limited in that the competitor acquiring the customer must be collocated in the same central office.

Concerning the ability to provide SCOPE in a timely manner, issue was joined as to how many technicians can work on an MDF efficiently. Considering the pressure on central office space, Bell Atlantic-New York states that space demands for its own internal purposes are much greater than those from the competitive LECs.<sup>7</sup> Also troubling to competitors is the lack of information concerning Bell Atlantic-New York's ability to expand MDFs as necessary to accommodate collocation demand.

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<sup>1</sup> Tr. 444.

<sup>2</sup> Tr. 445.

<sup>3</sup> Tr. 364-366.

<sup>4</sup> Tr. 452-453.

<sup>5</sup> Tr. 347.

<sup>6</sup> Tr. 401.

<sup>7</sup> Tr. 256-257.

3. Discussion

As with other collocation methods, SCOPE adds cross-connects to the system, which adds human error to the equation of network security and end-user impact. Although several competitive LECs felt this was not an insurmountable problem, others felt this could degrade customer service and increase the possibility of customer outage.<sup>1</sup>

Some competitors were most concerned about SCOPE costs; aside from this, network security is the most troubling issue attending this option. Bell Atlantic-New York and the competitive LECs agree that the risk assumed by the competitive LECs using SCOPE is greater than in a secured traditional physical collocation environment. SCOPE does have a limited measure of security because it is located inside the central office building; however, competitive LECs would not have parity with the incumbents's security. Varying levels of security were requested by different competitors; competitors' collocation choices may depend on the number of customers and type of equipment. Diverse levels and methods of security to be maintained by Bell Atlantic-New York in the SCOPE environment were discussed, including limiting access and the use of keys or cards. The competitive LECs also have the flexibility to install cabinets around their equipment.

As to the ability to migrate facilities, SCOPE has definite strengths. There is no inherent problem with a migration of facilities to the incumbent or a competitor, with coordination. Some facilities-based carriers expressed that migration to a new carrier using the combination of SCOPE and extended link is what they need today.<sup>2</sup>

Concerning migration to other carriers, SCOPE's limitation is that the competitive LEC must be collocated in the same central office, and that extensive coordination may be

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<sup>1</sup> Tr. 329, 335, 396.

<sup>2</sup> Tr. 335.

necessary between the affected carriers. As Bell Atlantic-New York stated:

Relative to migration to other carriers, it rates a little lower because it will require extensive coordination between carriers flipping customers . . . it is going to require coordination beyond just Bell Atlantic in that you are going to flip a customer from your space to somebody else's and right now from a CLEC perspective we're probably not very good at doing that and that's an honest answer.<sup>1</sup>

SCOPE is advantageous to facilities-based competitive LECs, and they generally support it. Competitive LECs are able to maintain their own equipment and select their own vendors; however, some prefer the enhanced extended link option to be provided with SCOPE. SCOPE provides parity with Bell Atlantic-New York in the amount of time for installation of cabling and reduces costs, essential for competitors effectively to enter the market. On the other hand, installation of a SCOPE arrangement is a lengthy process--the interval is 76 business days, or approximately 60 business days if it is the second competitive LEC in an area where there is room in an established SCOPE area.

Finally, competitors request a modification of SCOPE to permit them to run cross-connects among their installations in a SCOPE configuration, currently not allowed by Bell Atlantic-New York.<sup>2</sup> Competitive LECs protest that Bell Atlantic-New York requires them to purchase either its tariffed dedicated cable support or dedicated transit service to connect their equipment in the SCOPE offering, while in a shared collocation cage competitive LECs are free to cross-connect among their installations without restriction. This issue should be explored by the parties during the collaborative session.

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<sup>1</sup> Tr. 329.

<sup>2</sup> See e.spire's Brief, p. 6; Tr. 269, 433; Bell Atlantic-New York Responses to Record Requests 15.5 and 19.

4. Proposed Finding

SCOPE can be made available in offices with limited or no traditional physical collocation space; it is an attractive alternative to some competitors. The greatest concerns are those of security and network reliability. To address these concerns, competitive LECs should be required to place locked cabinets around their equipment or institute such other security measures as can be determined through the scheduled collaborative discussions, subject to Commission approval. Also of concern are the installation intervals.

Option III -- Identified Space Collocation (COVAD)

Under this proposal a collocator would install and maintain its own equipment in a central office in a defined, finite, and separated space. Collocators' equipment, racks and shelves would not be commingled with those of the incumbent, but would be intermingled with that equipment throughout the central office where there is available space.<sup>1</sup> The equipment, installation and procedures involved would meet standard, non-discriminatory industry requirements. Collocators would pay pro-rata rental charges for the central office space utilized.

Since collocator personnel and equipment are not physically segregated from the incumbent's, alternative security arrangements are of particular significance in this proposal. An Intermedia variation is to allow competitive LEC personnel escorted by a Bell Atlantic-New York security escort into the incumbent's central office to access virtually collocated equipment.<sup>2</sup>

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<sup>1</sup> This distinction is made based on the fact that competitive LEC equipment would be placed in identified racks dedicated to particular collocators; in this sense it is segregated from Bell Atlantic-New York's equipment.

<sup>2</sup> Intermedia's Brief, p. 7.

1. The Sponsor's Evaluation

COVAD ranks this as the most desirable overall of the available collocation options, assigning it numerical scores in each category equal to, or higher than, all other collocation approaches.<sup>1</sup> COVAD asserts this approach has multiple advantages compared to all other collocation methods, and only one potential disadvantage. Moreover, this method makes the best use of all available central office space.

COVAD believes that potential network security issues have been overblown by Bell Atlantic-New York, and that security measures can be tailored to the circumstances of each central office. Under its interconnection agreement with US WEST, COVAD asserts it will install and maintain its own equipment in US WEST's premises without the use of a cage.<sup>2</sup> It is allotted a separate, identifiable central office floor space in a non-caged area of the central office, in single-frame bay increments. In that space, COVAD may install equipment on its own racks and shelves, not commingled with those of US WEST. Space is made available within 45 days, where space and power are available, and COVAD pays rent based on its pro-rata share of space. COVAD asserts that US WEST is making this form of physical collocation available throughout its 14-state region. COVAD asserts that Bell Atlantic-New York overstates the security risk, that competitive LECs have an incentive to minimize harm to the network, that cageless arrangements are common in the telecommunications industry, and that Bell Atlantic-New York currently permits third party contractors to install equipment on a non-caged basis pursuant to its methods of procedure. COVAD cites the FCC concerns that the construction cost of physical security arrangements could serve as a significant barrier to entry and that incumbents have an incentive and the capability to

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<sup>1</sup> COVAD's Brief, Table 1.

<sup>2</sup> COVAD has not yet completed any non-cage collocation arrangements in Washington. Tr. 492-493.

impose higher construction costs than the new entrant might need to incur.<sup>1</sup>

## 2. Other Parties' Evaluations

Some competitive LECs (e.spire and Intermedia) actively support this proposal. e.spire considers it "one of the most efficient and attractive options examined at the Technical Conference."<sup>2</sup> Intermedia supports Covad's arguments that security concerns can be resolved, offering its escort alternative. Cablevision maintains that cageless collocation is "necessary if competitive LECs are to be able to compete."<sup>3</sup>

Other competitive LECs, while supporting, or at least not opposing, this method of collocation, consider it to have the shortcomings of other types of collocation for the purpose of combining unbundled network elements. For example, AT&T points out that the collocation alternatives considered at the technical conference require the same manual work at the main distribution frame to recombine unbundled loops and switching.<sup>4</sup> In the view of these competitive LECs, this is the fatal flaw of any type of collocation as a method of combining network elements.

Bell Atlantic-New York adds this method would deny it the ability to maintain adequate security over its own network facilities. It considers the resulting risks to its network and customers to be simply unacceptable.<sup>5</sup> Bell Atlantic-New York emphasizes the large number of competing carriers that would have access to its secure facility areas. While Bell Atlantic-New York acknowledges that it agreed to discuss the feasibility of

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<sup>1</sup> First Report and Order, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 11 FCC Rcd 15499, 15803 (Local Competition Order), ¶598.

<sup>2</sup> e.spire's Brief, p. 8.

<sup>3</sup> Cablevision's Brief, p. 10.

<sup>4</sup> AT&T's Brief, p. 2.

<sup>5</sup> Bell Atlantic-New York's Summary Presentation, p. 5.



cageless physical collocations in its Pre-filing, it considers this commingling proposal a radical departure from historical secure arrangements, and fears the risk of unacceptable interference by competitors. It points out that some New York central offices have as many as seven collocating carriers, warning that open access to competitive LEC and Bell Atlantic-New York equipment without any structure to avoid disruptions of service, would create network outage problems. Finally, it asserts that unsecured cageless collocation would impair Bell Atlantic-New York accountability for its own customer service, and rejects proposed security devices as naive.<sup>1</sup>

### 3. Discussion

The record establishes a number of desirable attributes of COVAD's option, although it should be noted that the option was developed for interconnection purposes and not for combination of incumbent's loops and ports. The network security issues are troubling, however, and on these issues the record is not adequate to support a recommendation that Bell Atlantic-New York be required to provide this option. There may be available security measures to provide adequate network protection; however, supporters have not demonstrated that adequate security measures can be implemented, what those would be under all circumstances, or that the method's economic and scheduling advantages would not be vitiated by implementation of such measures. These issues can productively be a subject of the scheduled collaboration.

### 4. Proposed Finding

Bell Atlantic-New York should not be required to provide this option immediately because of the lack of security

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<sup>1</sup> Bell Atlantic-New York cites the rejection of cageless collocation proposals by the FCC. Local Competition Order ¶598.

protections; however, possible security measures should be explored in collaboration.

Option IV -- Virtual Collocation  
With Robot (Bell Atlantic-New York)

Bell Atlantic-New York currently offers virtual collocation, an arrangement by which the competitive LEC purchases equipment it wishes to use, and then sells the equipment to Bell Atlantic-New York for one dollar. Thereafter, Bell Atlantic-New York owns and maintains the equipment exclusively on the competitive LEC's behalf.

This arrangement could be used by a competitive LEC to recombine loops and ports through the use of a remotely controlled cross-connect device, or robot. Once the device is installed, Bell Atlantic-New York loops and ports could be terminated on the equipment and the competitive LEC could remotely recombine them. Bell Atlantic-New York would use its existing "hot cut" procedures in connecting its network to the device.<sup>1</sup>

1. The Sponsor's Evaluation

As to the demonstrability of this method, Bell Atlantic-New York rates it as highly as possible, citing the technical conference demonstration. Virtual collocation arrangements are, of course, already used, and Bell Atlantic-New York uses this type of cross-connect device in its network, albeit not for element recombination. Bell Atlantic-New York

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<sup>1</sup> Bell Atlantic-New York provided a demonstration at the technical conference of this device, produced by CON-X Corporation (CON-X). This device can be mounted in a standard equipment relay rack in a Bell Atlantic-New York central office. Using a robotics arm, the device places or removes connections as directed by the competitive LEC from a remote workstation. The CON-X robot can accommodate up to 1,400 loops, which it can connect to Bell Atlantic-New York and/or competitive LEC ports.

indicates that two competitive LECs are currently implementing these systems in New York.<sup>1</sup>

With respect to speed of implementation, Bell Atlantic-New York considers this method perfect. Its implementation period for virtual collocation is 105 business days; however, with only 12 robots in service, the ability of CON-X to manufacture sizable quantities has not been tested. That company has been able to deliver a robot within 60 days of order.<sup>2</sup>

As to this method's ability to handle foreseeable volumes of transactions, Bell Atlantic-New York is enthusiastic, again giving it the highest rating. As to cost effectiveness, however, Bell Atlantic-New York rates this method somewhat lower, although still highly, allowing that if all a competitive LEC wanted to do was reconnect loops and ports other options might be less expensive.

Concerning whether the method minimizes potential adverse impacts on either end users or the competitive LEC and incumbent networks, Bell Atlantic-New York rates this method as highly as its other collocation options. As to the ease of migration of customers to competitors' facilities-based service, Bell Atlantic-New York is very positive, rating it outstanding, inasmuch as the CON-X robot allows for the simultaneous connection of Bell Atlantic-New York and competitive LEC ports. Migrating a customer from a Bell Atlantic-New York port to a competitive LEC port can be done quickly and remotely with the robot. Regarding ease of migration of customers to a second competitive LEC or back to the incumbent, Bell Atlantic-New York considers this method excellent for migration back to its system, but slightly less so for migration to another competitive LEC, similar to its ratings for the other collocation methods.

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<sup>1</sup> Tr. 502.

<sup>2</sup> Tr. 512.

## 2. Other Parties' Evaluations

This method is rejected by all parties save Bell Atlantic-New York. Generally, competitors see it as adding another layer of expensive and trouble-producing equipment into the network for the recombiners. In particular, other parties rate the demonstrability of this method very low, asserting that the demonstration actually showed very little.

This method garnered considerable criticism from parties as to timeliness of provisioning. There is concern about the availability of enough robots and about the ability of competitive LECs to use the system without extensive training. Similarly, parties are unenthusiastic about this method's cost, stating that the system was really nothing more than an expensive pre-wired frame. Indeed, competitors see no advantage--and see considerable additional expense--in purchasing this equipment, as opposed to installing a pre-wired frame in a conventional virtual collocation arrangement.<sup>1</sup> WorldCom notes that where pre-wiring of cross connections would be critical, it is prohibited by Bell Atlantic-New York in favor of the robot, a retrograde and expensive alternative, in the competitor's view.

As to whether the method minimizes potential adverse impacts on either end users or the competitive LEC and incumbent networks, other parties rate it quite poorly, on the same grounds as they rate the other collocation options. Concerning ease of migration to facilities-based systems, other parties argue that once a competitive LEC had made the investment in this type of system to combine loops and ports, it would have a financial incentive to retain that arrangement and would be less inclined to move to offer a facilities-based service. On this ground, competitors give this method a fair or poor rating.<sup>2</sup>

Considering migration of customers to a second competitive LEC or back to the incumbent, parties again disagree

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<sup>1</sup> See, for example, Tr. 526-527.

<sup>2</sup> Tr. 536.

with the sponsor, rating this the method quite poor, because it would require coordination of three carriers.<sup>1</sup>

### 3. Discussion

The limited evidence indicates that this system apparently works, in the few instances where it has been used. Nationwide, there are 12 working robots in four systems.<sup>2</sup> There appear to be less expensive and quicker ways of combining elements. Bell Atlantic-New York's purported highlight of this method was the ability for a competitive LEC to move one of its customers from a Bell Atlantic-New York switch to its own. However, since this is done in a virtual collocation arrangement, the competitive LEC would not have the access it wants to the equipment; this would likely be unsatisfactory to most competitive LECs. In particular, most competitors requested the ability to use pre-wired frames rather than the robot and, in fact, CompTel contrasted the offering of an inexpensive pre-wired frame in a costly environment with an inexpensive virtual environment burdened by the costly robot.<sup>3</sup> Bell Atlantic-New York's explanation for its requirement that a robot make the link and port connection in a virtual environment while it will allow a pre-wired frame in all other situations was unconvincing. The collaborative phase of this case should examine how a pre-wired frame could be used in a virtual collocation environment to combine elements.

### 4. Proposed Finding

Bell Atlantic-New York's offering may be accepted by some competitors; however, it does not appear to meet their concerns and the robot requirement adds enormously to collocation costs without justification. The issue of allowing competitors

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<sup>1</sup> Tr. 537.

<sup>2</sup> Tr. 541.

<sup>3</sup> CompTel's Brief, p. 7, Tr. 608-610.

to provide pre-wired frames should be discussed in the scheduled collaborative sessions.

Option V -- Assembly Room and  
Assembly Point (Bell Atlantic-New York)

The assembly room and assembly point are innovative new options that Bell Atlantic-New York proposes to offer competitive LECs who seek to combine Bell Atlantic-New York links and ports. These options do not require the same conditioned space as traditional forms of collocation, and would therefore be less costly to competitive LECs not using any of their own elements. The assembly room would be located in an secure, unconditioned area of a Bell Atlantic-New York central office and could be shared by a number of competitive LECs.<sup>1</sup> The assembly point would be used in central offices where constructing an assembly room within the building is not feasible. The assembly point would offer competitive LECs the same technical means of combining Bell Atlantic-New York links and ports, but would either be mounted on the outside wall or pad mounted on the grounds of the central office.<sup>2</sup> The assembly room or point only provide voice grade loop and port combinations.

The assembly room or point would initially be subject to the same 76-business-day interval used for traditional physical collocation. Subsequent entrants would be able to obtain space in the assembly room or point more quickly.<sup>3</sup> Competitive LECs would be assigned a termination frame or portion of a termination frame, and could either pre-wire the frame or perform cross-connections as they acquire customers. The actual process of transferring a customer from Bell Atlantic-New York to

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<sup>1</sup> Tr. 553-554.

<sup>2</sup> Bell Atlantic-New York has indicated that it may in some cases place an assembly point in an unsecured location within its central offices (Tr. 558, 570).

<sup>3</sup> Bell Atlantic-New York's May 27, 1998 filing, p. 19.

the competitive LEC would be accomplished by Bell Atlantic-New York technicians performing a manual or hot cut.

1. The Sponsor's Evaluation

On the question of whether the assembly room/point could readily be demonstrated, Bell Atlantic-New York rates the assembly room/point extremely highly, stating that these were simply less complicated versions of traditional collocation.<sup>1</sup> While Bell Atlantic-New York has yet to construct an assembly room or point, the technology involved is not new or complicated and it would not be difficult for Bell Atlantic-New York to demonstrate its ability to deliver this service. Bell Atlantic-New York also rates the assembly room/point highly--although less highly--on how quickly the method could be implemented. The first of these is expected to be constructed by August 15, 1998.

Concerning whether the method can handle foreseeable volumes of transactions, Bell Atlantic-New York states that the assembly room/point could handle reasonably foreseeable volumes, and therefore rates the method very highly in that category.

Bell Atlantic-New York states that the assembly room/point was designed specifically for the combination of Bell Atlantic-New York loops and ports, and therefore rates it as highly as possible for cost efficiency.<sup>2</sup> Because the assembly room/point would not require conditioning, it would be less costly to a competitive LEC seeking to combine Bell Atlantic-New York voice grade loops and ports than other collocation options, according to Bell Atlantic-New York's preliminary cost estimates.<sup>3</sup>

Concerning whether the method minimized potential adverse impacts on end users, Bell Atlantic-New York notes that the assembly room/point offered a slightly less secure

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<sup>1</sup> Tr. 560.

<sup>2</sup> Tr. 561.

<sup>3</sup> Response to Data Request #22, as revised July 10, 1998.

environment than traditional collocation.<sup>1</sup> Bell Atlantic-New York notes that competitive LECs could install locking covers to be used within the assembly room for added security.<sup>2</sup> Because the assembly room/point uses the same hot cut procedure as other methods of combining elements, end users should not be adversely impacted if competitive LECs choose this method over others.

As to whether the method minimizes potential adverse impacts on the networks of the incumbent and the competitive LEC, Bell Atlantic-New York correctly notes that, under the assembly room/point scenario, the competitive LEC would not have its own network. In terms of this method's ability to minimize adverse impacts on its own network, Bell Atlantic-New York rates this method as highly as possible based on its similarity to traditional physical collocation.<sup>3</sup>

Regarding how easily a competitive LEC may migrate a customer from this method to its own facilities-based service, Bell Atlantic-New York notes that it would be more difficult to migrate a competitive LEC customer from elements combined via an assembly room/point to the competitive LEC's facilities-based service than with the more traditional collocation options, and therefore rates this method lower in that category.

On the issue of how easily a customer served using elements combined via an assembly room or point could be migrated back to Bell Atlantic-New York or to a competitive LEC using the Bell Atlantic-New York network, Bell Atlantic-New York rates the method very highly. For customers migrating to a facilities-based competitive LEC, Bell Atlantic-New York rates the method slightly lower, because the two competitive LECs would have to coordinate the cutover.<sup>4</sup> As with the question of moving a customer served by a competitive LEC via the assembly room/point

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<sup>1</sup> Tr. 561.

<sup>2</sup> Tr. 572.

<sup>3</sup> Tr. 562.

<sup>4</sup> Tr. 563.



to that competitive LEC's own facilities-based service, this transition could be difficult and has the potential to impact customer service.

## 2. Other Parties' Evaluations

As to timeliness of implementation, competitors assert that, in reality, this method of combining elements cannot be implemented quickly, particularly for the first competitive LEC in a given Bell Atlantic-New York central office. The interval for the initial competitive LEC would be 76 business days, and for subsequent competitive LECs or subsequent orders from the initial competitive LEC the interval would be 60 business days.<sup>1</sup> Further, the same Bell Atlantic-New York personnel now responsible for the construction of physical collocation arrangements would be responsible for assembly rooms/points, and Bell Atlantic-New York has committed to provision only 15 to 20 collocation arrangements per month.<sup>2</sup> Therefore, if all collocation requests were to cease, it would still take Bell Atlantic-New York more than two years to install an assembly room or point in each of its central offices.

According to CompTel, certain element combinations, for example, the loop and transport combination, would not be available using this method. Intermedia notes this option is unusable by it because it uses a T1 loop even to serve voice customers.<sup>3</sup>

AT&T correctly notes that this method would make it very difficult for competitive LECs to migrate customers to their own facilities, as a facilities-based competitive LEC would locate its equipment in conditioned space and the assembly room or point would be unconditioned space.<sup>4</sup> The competitive LEC

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<sup>1</sup> Tr. 556.

<sup>2</sup> Tr. 581-582.

<sup>3</sup> Tr. 590, 613; CompTel's Brief, p. 4.

<sup>4</sup> Tr. 600-601.